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4301-1005-1
PATENT

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of

Werner Josef FRANTSITS

Conf. 3705

Application No. 10/085,000

Group 1614

Filed March 1, 2000

Examiner Brian Kwon

AQUEOUS FORMULATION OF BETA CAROTENE

DECLARATION UNDER RULE 132

Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, W. J. Frantsits, hereby declare as follows:

My relevant background and experience are set forth in the attached c.v. I have carefully reviewed the present continuation application of parent application 09/460,769 and the rejections raised by the Examiner in that parent application based upon Kolter et al. (E.P. 0800825 A1), alone or in view of Caloianu et al. (RO 113211) and End et al. (US 5,453,447). I make this declaration in support of the present application and to provide evidence in rebuttal to the allegations raised by the Examiner that the publications of Kolter et al. either alone or in view of Caloianu et al. and End et al., render obvious the claimed invention.

I declare that Kolter et al., either alone or in view of Caloianu et al. and End et al., does not disclose or suggest the

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claimed method for preparing a formulation of beta-carotene in an aqueous medium. This is demonstrated by Example 7 in Kolter et al. which teaches the following:

Example 7

(Comparative test)

The continuous preparation method as described in Example 4 was used to carry out the following tests:

Formulation A:	β-carotene	6%
	Solutol ® HS 15	23%
	Water for injections ad	100%
Formulation B:	β-Carotene	6%
	Tocopherol	1.2%
	Solutol ® HS 15	23%
	Water for injections ad	100%
Formulation C:	β-Carotene	6%
	Tocopherol acetate	10%
	Solutol ® HS 15	23%
	Water for injections ad	100%

The results of Kolter et al. show that Kolter et al. can not produce a stable formulation of beta-carotene by using only solutol HS 15 and water. Indeed, Example 7 shows that a clear and stable solubizate is obtained only after large amounts of tocopherol acetate are added (see formulation C of example 7).

In contrast, the subject invention claims a method for preparing a formulation of β-carotene in an aqueous medium. The formulation contains at least polyoxyethylene-660-hydroxy stearate and isopropyl myristate as a mediator of solubility and at least one of ascorbyl palmitate and α-tocopherol as an

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antioxidant. The method comprises heating an aqueous solution of polyoxyethylene-660-hydroxy stearate to a temperature between 70°C and 140°C. Beta-carotene is then added to the heated aqueous solution of polyoxyethylene-660-hydroxy stearate. While stirring, at least one of ascorbyl palmitate and α -tocopherol are added as an antioxidant to the solution of polyoxyethylene-660-hydroxy stearate and β -carotene.

The mixture thereafter is heated to a temperature of 75°C plus/minus 2°C. Water is then added to dilute the solution, thus making an injectable formulation containing 0.1-10% (w/v) β -carotene 10-40% (w/v) polyoxyethylene-660-hydroxy stearate and 5-20% (w/v) isopropyl myristate.

Contrary to the results of Kolter et al., the process in the instant patent application exhibits unexpected results. Unlike Kolter et al., the claimed method produces a clear and stable solution. Accordingly, the rejection based on Kolter et al., alone or in view of Caloianu et al. and End et al., is improper and must be withdrawn.

Moreover, I declare that one of ordinary skill in the art would lack the motivation to combine Kolter et al. with either of the other two publications, i.e., with Caloianu et al. and/or End et al. Upon reviewing the Kolter et al. publication, alone or in view of Caloianu et al. and End et al., one of ordinary skill in the art would find the teachings of Kolter et al. sufficient. Moreover, I declare that the Kolter et al.

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publication either alone or in view of Colosanu et al. and End et al. publications, are directed to distinct fields of endeavor.

The undersigned declares further that all statements made herein are of his own knowledge, are true, and that all statements made on information and belief are believed to be true. Further, these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the U.S. Code and that such willful false statements may jeopardize the validity of the application of any patent issuing thereon.

June 8, 2004
DATE

1. [Signature]
Warner Josef Frantsits

Attachment: cv